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THE NEW ENGLAND BOTANICAL CLUB

Vol. 15. December, 1913. No. 180.

ERIGERON PUSILLUS A VALID SPECIES.

B. L. Robinson.

While collecting during the spring of 1912 in the neighborhood of Charleston, South Carolina, I found in sandy soil on the Isle of Palms a small and rather loosely branched *Erigeron*, obviously close to *E. canadensis* L., yet with smoother stem and narrower leaves than are found in the common and familiar weed of fields and dry open roadsides. On returning to the Gray Herbarium a few weeks later I tried to separate the coastal plant in question from *E. canadensis*, but found such variety of habit, stature, pubescence, leaf-breadth, etc., among the specimens long referred to the species, that no feasible planes of cleavage were discovered, and the South Carolina plant was reluctantly referred to the common species.

In examining recently some sets of phanerogams collected for the Gray Herbarium in the Bermuda Islands by Mr. F. S. Collins, I was much interested to find again the smoothish form of *Erigeron*. This led to its more careful examination. Noticing that the involucral scales had minute purplish quasi glandular tips, I found at once that it was possible to sort very definitely some forty individuals of Bermuda material into two kinds, some having these purple-tipped scales, and the others having more attenuate white-tipped scales. Soon concomitant differences appeared and it was evident that the form with purple-tipped scales was consistently smoother, more slender, entire-leaved and tended to have fewer and slightly smaller heads on more elongated pedicels together forming a more open inflorescence.

With these leading characters in mind, the considerable mass of *E. canadensis* in the Gray Herbarium and the herbarium of the New

England Botanical Club was re-examined and quickly found to be similarly divisible. The form with purple-tipped scales proved to have a generally coastal distribution from eastern Massachusetts to Florida, Central America, Colombia, Guiana, and the West Indies, with a single outlying specimen from New South Wales, while the form with attenuate white-tipped scales extends across the North American continent, showing some variations to the westward, and being also frequent as an introduced plant in various parts of the Old World.

Study of the literature of the group leaves no doubt that the widely distributed plant with white-tipped scales is the typical *E. canadensis* L., while the coastal plant with purple-tipped scales is the *E. pusillus* of Nuttall, who long ago recognized its lower stature, smoother stem, and more slender, open, and fewer-headed inflorescence, as well as its consistently entire leaves. The small purple dot at the apex of the involucral scale, though a valuable differential character, is inconspicuous except under a lens, and seems to have been overlooked by Nuttall, but all characters mentioned by Nuttall correspond perfectly with the plant in question. Furthermore, there is confirmation in the identity of a specimen labelled *E. pusillum* Nutt., now in the Gray Herbarium, which was received from the herbarium of Nuttall apparently at the time when Torrey and Gray were preparing the manuscript of the *Compositae* for their Flora of North America. It is interesting to find that this doubtless authentic specimen exhibits not only all the characteristics attributed to his species by Nuttall but shows the purple-tipped involucral scales.

The examination of many specimens from numerous widely separated stations shows the same distinctions between *E. canadensis* and *E. pusillus*, and as yet no tendency toward intergradation has been observed. It seems therefore that Nuttall's *E. pusillus* may be reinstated as a valid species, near to, though readily distinguishable from, *E. canadensis*. It will be interesting to learn whether its range can be extended further toward the northeast.

The only attempt, which I have found in recent literature, to reinstate *E. pusillus* Nutt. is apparently a mistaken one. It is the *Leptilon canadense pusillum* (Nutt.) Daniels, Flora of Boulder, Colorado, 239 (1911). No description is given beyond the statement: "The common form of the foothills, $\frac{1}{2}$–1 dm. high and but few-flowered, 6000–8000 ft. (Daniels, 694)." An examination of a considerable number of specimens of *E. canadensis* L. from the Rocky Mountain

region, while disclosing great variability in such matters as stature, number of heads, etc., has failed to show a single specimen of *E. pusillus* Nutt.— a matter by no means surprising in consideration of the generally coastal distribution of the species. It is to be inferred therefore that the plant to which Prof. Daniels referred was merely a starved and depauperate state of the common *E. canadensis* L.

An examination of *E. canadensis* L. as it occurs in the southwestern part of the United States indicates that Dr. Gray's long neglected var. *glabratus* is capable of recognition and worthy of more careful restatement as to character and range.

Much more doubtful is *E. strictus* DC., originally collected by Berlandier near the boundary between Texas and Mexico. In all matters of foliage, pubescence, involucre, etc., it appears to be indistinguishable from *E. canadensis*, yet it may be worth while to draw attention to the compact thyrsoid almost spicate form of the young inflorescence in the type material of *E. strictus*, since the young inflorescence in *E. canadensis* is commonly rather loose and open. However, while this is a matter which should be watched by those who have opportunities to study southwestern specimens of the group, the material at present available of the so-called *E. strictus* DC. is not sufficient to show whether this distinction of the young inflorescence has any value in classification. For the present *E. strictus* DC. would better be included as heretofore in the synonymy of *E. canadensis* L.

Of the other synonyms of *E. canadensis*, it is clear that *E. paniculatus* Lam. is a mere renaming of the Linnaean species, and *Senecio ciliatus* Walt., described as pilose and 6–8 feet high, was doubtless *E. canadensis* L. rather than *E. pusillus* Nutt.

The plants here discussed may be summarized as follows: —

Involucral scales minutely purple-tipped.....*E. pusillus.*
Involucral scales with attenuate whitish tips.
Stems spreading-hirsute. Heads cymosely disposed in panicle.
E. canadensis.
Stems glabrous or with few scattered appressed short hairs. Heads quasi racemose on long branches of panicle.....*E. canadensis*, v. *glabratus.*

E. PUSILLUS Nutt. Stem .08–1 m. high, nearly or quite glabrous, the trichomes if present minute and subappressed: leaves mostly oblanceolate-linear and very narrow, the earliest lance-oblong, the upper linear, all entire, ciliate at least toward the contracted base: inflorescence inclining to be open; involucral scales straight, nearly or quite glabrous, with regular (not crisped) white subscarious margins, the tip slightly bluntish (under a lens), obscurely fimbriolate and

dorsally marked with a purplish spot at or just below the apex.— Gen. ii. 148 (1818); Ell. Sk. ii. 398 (1824); DC. Prod. v. 289 (1836); Reade, Plants of the Bermudas, 40 (1883); all as *E. pusillum*. *E. canadensis*, var. *pusillus* Bart. Fl. Philad. ii. 108 (1818), as *pusillum*. *Caenotus pusillus* (Nutt.) Raf. Fl. Tellur. ii. 50 (1837), by implication; Hook. f. & Jacks. Ind. Kew. i. 370 (1893).— Massachusetts: Plymouth, *Oakes;* sandplain, Cataumet, Bourne, 26 Oct. 1913, *Fernald;* head of sand beach, Wild Harbor, Falmouth, 25 Aug. 1906, *Batchelder;* dry sandy soil, Chatham, 9 Sep. 1913, *Fernald & Long;* Chilmark, Martha's Vineyard, *Harris*. Rhode Island: waste places, Providence, August, 1844, *Thurber*. Without stated locality but probably in New Jersey or Pennsylvania, *Nuttall*. Kentucky (southeastern part): near Poor Fork Post Office, *Kearney*, no. 218 (Gray Herb.); Pine Mountain, Harlan County, *Kearney*, no. 218 in part (herbarium of W. Deane). South Carolina: Charleston, *Beyrich;* common in fields, Santee Canal, *Ravenel;* in loose sand, Isle of Palms, *Robinson*, no. 51. Georgia: in fields, *Beyrich*, no. 3263. Florida: Biscayne Bay, *Palmer*, no. 246; Braidentown, *Tracy*, no. 7077; weed in waste places, Meyers, *Hitchcock*, no. 144. Mississippi: Biloxi, *Tracy*, no. 6349; Horn Island, *Tracy*, no. 6348. Texas: Huntsville, Walker Co., *Dixon*, no. 411. Yucatan: Izamal, *Gaumer*, no. 846. State of Vera Cruz: alt. 825 m., Cordoba, *Seaton*, no. 446; Coatzacoalcos, *C. L. Smith*, no. 582. Guatemala: Laguna de Ayarza, alt. 2440 m., *Heyde & Lux*, no. 3801 (distrib. J. D. Smith). Costa Rica: cultivated ground, Tuis, *Tonduz*, no. 11,478; Copey, *Tonduz*, nos. 11,773, 11,766; hills of Santiago near San Ramón, *Brenes*, no. 14,363. Colombia: Santa Marta, *H. H. Smith*, no. 527. Dutch Guiana: *Kappler*, no. 1212. Bermuda Islands: sand dunes, Paget, 10 June, 1905, *Harshberger;* waste ground, Somerset Island, *S. Brown*, no. 641; roadsides, Devonshire, *Collins*, no. 48; roadsides, Flatts Village, *Collins*, no. 405; Middle Road, *Collins*, no. 310. Bahama Islands: dry lime sand, Nassau, *Wight*, no. 1313. Jamaica: St. Margaret's Bay, *Millspaugh*, no. 1918. St. Croix: roadside, *Ricksecker*, no. 484. St. Vincent: *H. H. & G. W. Smith*, no. 1930. Grenada: Tempé, St. George, 25 Sep. 1905, *Broadway*. New South Wales: Kurnell, Botany Bay, *Boorman*, no. 2.

E. canadensis L. Stem 0.1–2 m. high, spreading-hirsute with scattered long horizontally divergent trichomes: leaves narrowly lanceolate or oblanceolate to linear, ciliate, the lower usually toothed: heads in an at length elongated cymose panicle; involucral scales linear-attenuate with scarious usually more or less crisped margins and gradually pointed whitish tips.— Spec. Pl. ii. 863 (1753), as *E. canadense*. *E. paniculatum* Lam. Fl. Fr. ii. 141 (1778). *Senecio ciliatus* Walt. Fl. Car. 208 (1788). *E. strictum* DC. Prod. v. 289 (1836), a form with the young inflorescence compactly thyrsoid. *Caenotus canadensis* (L.) Raf. Fl. Tellur. ii. 50 (1837), by implication; Hook. f. & Jacks. Ind. Kew. i. 370 (1893). *Conyzella canadensis* (L.)

Rupr. Mém. Acad. Pétersb. sér. 7, xiv. n. 4, 51 (1869). *Leptilon canadense* (L.) Britton in Britton & Brown, Ill. Fl. iii. 391 (1898). *L. canadense pusillum* Daniels, Fl. Boulder, Col. 239 (1911), as to plant but excl. name-bringing synonym.— Common and widely distributed through temperate North America, Mexico, and in scattered localities south even to Chili; also an introduced weed in waste places, etc., in the Old World.

Var. GLABRATUS Gray. Tall and (for the species) robust, with smoothish stem, the trichomes few, scattered, and very short, ascending or subappressed: branches of the large inflorescence long (1–1.5 dm.) simple, apt to be closely flowered and appearing inversely racemose or even almost spicate.— Pl. Lindh. ii. 220 (1850).— TEXAS: between the Colorado and Nueces Rivers, *Berlandier*, no. 2555; fields in sandy loamy soil near Bracken, Bexar Co., *Groth*, no. 83; prairie north of the Llano among granite rocks, *Lindheimer*, no. 626 (444). NEW MEXICO: Forest Nursery, Fort Bayard, Watershed, Grant Co., *Blumer*, no. 33; cañons, Tierra Blanca, Sierra Co., *Metcalfe*, no. 1229. CHIHUAHUA: near Lake Santa Maria, *E. W. Nelson*, no. 6388. CALIFORNIA: Wilson's Lake, *Nevin*, no. 8.

GRAY HERBARIUM.

ON VARIATION IN ARENARIA LATERIFLORA.

R. W. WOODWARD.

WHILE collecting on the low grounds near the beach at Westerly, Rhode Island, June 5, 1913, I was struck by the display of *Arenaria lateriflora*, the season's vegetation not being far enough advanced to overtop the *Arenaria*, which was abundant, and conspicuous with its white flowers, over considerable areas. Equally abundant, but growing by itself and not mingling with the other, was a plant with smaller white flowers, which I at first took to be a different species, but which proved on examination to be a form of *Arenaria lateriflora*, or at least closely related to it. Many specimens of these plants were examined, both in the field and later, and the differences between them are so marked and so constant that it seems worth while to place them upon record.

The petals of the first plant average 7.5 mm. in length, and the prominent stamens are about twice the length of the calyx, equalling

or exceeding the styles, and have comparatively large anther cells. The length of the calyx is 2.5 mm.

In the other plant the petals have an average length of 4 mm., while the stamens, which are quite inconspicuous, are shorter than the calyx or barely equal it, and much shorter than the styles, and the anther cells are small. The sepals are about 2.5 mm. long. There are no marked differences in the foliage. Later, in Franklin, a typical hill town of eastern Connecticut, an *Arenaria* was found, growing profusely in dry open woods, which matches exactly the small-flowered plant from Westerly. In wet meadows and open swamps, on the other hand, the only form was one with large flowers, which proved to be an equally good match for the large-flowered Westerly plant. In one instance, in passing from a wet meadow to the surrounding gravel, there was an abrupt transition from the large to the small-flowered form, the former growing freely in the meadow, and the latter being common on the drier gravel, where it was the only form. I soon learned that knowledge of local soil conditions enabled me to predict with certainty which form would occur at any given station in Franklin. It is not so easy to get at the determining factors on the low lands at Westerly. On returning there, however, a few weeks later, to secure fruiting specimens, I discovered that the stations for the large-flowered *Arenaria* were covered with so tall and dense a growth of grasses and sedges that it was exceedingly difficult to find the specimens for which I was looking, while the places where the small-flowered plant grew, were comparatively free from other vegetation, and possess probably a drier and more siliceous soil. As already mentioned, the anthers are noticeably smaller in the small-flowered *Arenaria*, and the cells often seem to be imperfectly developed. The plant fruits freely, however, as, for instance, in dry open woods at Franklin, where there is no admixture of the large-flowered *Arenaria*. Specimens from Westerly and Franklin have been deposited in the Gray Herbarium.

NEW HAVEN, CONNECTICUT.

THE GENUS EMPETRUM IN NORTH AMERICA.

M. L. Fernald and K. M. Wiegand.

In 1902 attention was called to the fact that we have more than a single Crowberry in eastern North America;[1] and subsequent study has demonstrated that, besides the circumpolar *Empetrum nigrum*, we have in northern New England and Eastern Canada a second very well marked species and in Newfoundland and southern Labrador a third species, which is abundant upon Newfoundland and the French Islands but barely reaches the American Continent in the neighborhood of the Straits of Belle Isle. In checking the characters of these two seemingly endemic species of northeastern North America, we have studied closely not only the material in the Gray Herbarium and the herbarium of the New England Botanical Club, rich in their representation from New England, eastern Canada, and Newfoundland; but have had the advantage of working with the material in the United States National Herbarium, with a remarkable strength in Alaskan specimens, and that of the Academy of Sciences of Philadelphia, strong in its representation from the Canadian Rocky Mountains. For the use of these two collections we are indebted to Messrs. W. N. Maxon and Witmer Stone respectively.

As understood by us our Crowberries belong to three species distinguished as follows:

A. Branchlets or margins of expanding leaves glandular, the latter not tomentose; mature leaves divergent, soon reflexed.
  Berries black, with or without a bloom.....1. *E. nigrum.*
  Berries red or purple: branchlets glabrous, glandular-pulverulent or at most minutely viscid-pilose....1a. *E. nigrum*, var. *purpureum.*

A. Branchlets and margins of expanding leaves white-tomentose; plant not glandular: leaves ascending to divergent, rarely (and then very tardily) reflexed: fruit pink, red, or purplish-black.
  Fruit 5–9 mm. in diameter, red to purplish-black, opaque: seeds 2–2.4 mm. long: leaves soon loosely divergent, rarely becoming reflexed; those of the leading shoots with blades (4–)4.5–6.5 mm. long.....2. *E. atropurpureum.*
  Fruit 3–5 mm. in diameter, pink or light red, becoming translucent: seeds 1.2–1.5 mm. long: leaves crowded, ascending, becoming slightly divergent; those of the leading shoots with blades 2.5–4 mm. long.....3. *E. Eamesii.*

1. E. nigrum L. Sp. Pl. 1022 (1753); Michx. Fl. Bor. Am. ii. 255 (1803); Pursh, Fl. i. 93 (1814); Bigelow, Fl. Bost. ed. 2, 365 (1824);

[1] Fernald, Rhodora, iv. 147–151 (1902).

Hook, Fl. Bor.-Am. ii. 140 (1838); Torr. Fl. N. Y. ii. 178 (1843); Gray, Man. 409 (1848); Fernald, Rhodora, iv. 150 (1902). *E. purpureum* Raf. New Fl. pt. iii. 50 (1836) in part.— Arctic and boreal regions, extending southward in peaty soils to Newfoundland, Nova Scotia, the Maine coast, the mountains of northern New England and northern New York; Pictured Rocks, northern Michigan (*G. H. Hicks*); Pipestone Valley and Lake Louise, Alberta (*Stewardson Brown*); Selkirk Mts., British Columbia (*J. M. Macoun*); Mt. Rainier, Washington (*E. C. Smith, C. V. Piper*) and Crescent City, California (*Howell*).

Extremely variable in the length and breadth of leaves, which range from linear to elliptic in outline and from 2.5–7 mm. in length. The branchlets, too, are sometimes nearly glabrous, with only minute glandular puberulence, but in our northern regions and the Northwest quite as often minutely pilose with sordid or viscid, not white, hairs. The seeds of the more northern material are commonly about 2 mm. long, ranging between 1.8 and 2.6 mm. and in very rare cases to 3 mm. in length, while toward the southern edge of the range the seeds are frequently smaller, from 1.4–1.8 mm. long. In much of the small-seeded material the leaves run decidedly shorter than in most of the more northern plants and upon first studying the group we inclined to separate as a southern variety the plants with shortest leaves and smallest seeds. The study of a fuller series of specimens shows, however, that no satisfactory line can be drawn either upon the basis of length or shape of leaf or size of seed. The most extreme illustration of this lack of concomitance in these characters is a sheet of specimens from the Mealy Mountains, Labrador (coll. *Dr. A. P. Brown*), with leaves only 3–4 mm. long, but with a fully developed seed 3 mm. long, the largest seed measured by us in the species.

1a. Var. purpureum (Raf.) DC. Prodr. xvi. pt. 1, 26 (1869); Simmons, Vasc. Pl. Fl. Ellesmereland, 43 (1906); Robinson & Fernald in Gray, Man. ed. 7, 551 (1908) in part. *E. purpureum* Raf. New Fl. pt. iii. 50 (1836) in part. *E. rubrum*, Durand, Proc. Acad. Sci. Phila., 1863, 95, not Vahl.— Northwestern Greenland, Ellesmereland, and Labrador.— A very little-known plant, resting upon an insecure basis. Rafinesque, assuming a larger knowledge of the northern flora than was at all justified, described his complex *E. purpureum* as follows:

"Empetrum purpureum Raf. E. nigrum Mx. and all our Amer. botanists, not of Lin. and European bot. E. rubrum Lapilaye fl.— Procumbent smooth, leaves scattered crowded, lower patent, upper imbricate, oblong-linear sessile uninerve obtuse flat on both sides, thickish, berries purple, sessile equal to the leaves and costate.— in Canada, Labrador, Newfoundland, White Mountains, Lake Superior, near the rocky shores. Michaux who first noticed this blended it

with the boreal sp. of Europe, and has been followed by all our subservient botanists except Lapilaye who has blended it with *E. rubrum* of Austral America in his Newfoundland Flora. My specimen is from Labrador and has red berries strikingly like those of Phytolacca! Those of our Botanists who saw the berries are few, they mostly copy Michaux! is there a sp. in boreal America with black berries? My sp. is perfectly distinct, the branches are terete smooth but sulcate among the leaves, these are only 2 or 3 lines long," etc.

Just how Rafinesque's *Empetrum purpureum* should be interpreted is something of a problem. It is clearly a confusion of different elements, for the plant of Michaux and "all our subservient botanists" up to Rafinesque's time was certainly *E. nigrum*. Michaux's plant has been examined by one of the present writers, it comes from a region where *E. nigrum* abounds, and Michaux's own note upon finding it is to the point: "Le 2 Aoust [1792] arrivé à la Malbaye. . .Depuis le Baye St. Paul, les Eboulements et la Malbaye les Montagnes sont formées de terre argilleux sables et Pierres roulées. Le Cap. Tourmente est formé de roches du Quartz. Sur les rochers un peu avant d'entrer dans la Baye, se trouve un arbuste rampant, Empetrum nigrum, f. touj. vertes, petites, ovales, reflechies,. . . .Baye noire, aqueuse, semences 9." [1] *E. rubrum* of La Pylaie's *Voyage à l'isle de Terre-Neuve* (his *Flora* mentioned by Rafinesque was never completed), as shown by La Pylaie's own collections and by abundant modern collections from Newfoundland, could not have been the plant which Rafinesque was describing from Labrador; for La Pylaie's Newfoundland *E. rubrum* has the berries bright pink or light coral-red, not "purple" or "strikingly like those of Phytolacca!" as emphasized by Rafinesque, and La Pylaie's plant has the branches and young foliage densely white-tomentose while Rafinesque said of his *E. purpureum:* "the branches are terete smooth."

After eliminating from *Empetrum purpureum* the true *E. nigrum* with black fruit of Michaux "and all our Am. botanists" and the *E. rubrum* of La Pylaie, there remains Rafinesque's description of a plant from Labrador with *smooth* branches and berries "purple" or "red. . . .strikingly like those of Phytolacca!" (which are ordinarily very dark purple). We are not familiar with such a plant but it is possible that it is correctly identified by Simmons with the red-fruited *E. nigrum* of Northwestern Greenland and Ellesmereland. But even

[1] Journal of André Michaux, 1787–1796, ed. C. S. Sargent — Proc. Am. Phil. Soc. xxvi., no. 129, 73 (1888).

then there seems to be almost as much question about the actual occurrence of such a red-fruited plant as there was in Rafinesque's mind in regard to the occurrence of black fruit in America.[1]

2. E. **atropurpureum** n. sp., a E. nigro recedit ramulis prostratis junioribus albido-tomentosis; foliis junioribus tomentosis vel arachnoideis primo adscendentibus deinde laxe patentibus haud vel rare reflexis, eis ramulorum vegetarum laminis (4-) 4.5–6.5 mm. longis; baccis 5–9 mm. diametro rubris vel atropurpureis opacis; seminibus 2–2.4 mm. longis.

Differing from *E. nigrum* in its trailing branchlets white-tomentose at least when young: leaves tomentose or arachnoid when young, at first ascending, finally loosely spreading, not at all or rarely reflexed; those of the leading shoots with blades (4–) 4.5–6.5 mm. long: berries 5–9 mm. in diameter, red or purplish black, opaque: seeds 2–2.4 mm. long.— *E. nigrum*, var. *andinum* Fernald, Rhodora, iv, 150 (1902); C. H. Knowlton, Rhodora, iv. 196 (1902); Robinson & Fernald in Gray, Man. ed. 7, 551 (1908); not DC. Prodr. xvi. pt. 1, 26 (1869).— Exposed sands or granitic or silicious gravels and ledges, Magdalen Islands, Prince Edward Island and mountains of Maine, New Hampshire and possibly Vermont. Magdalen Islands: sand hills between East Cape and East Point, Coffin Island, July 19, 1912, *Fernald, Bartram, Long & St. John*, no. 7733. Prince Edward Island: sand hills between South Lake and the Gulf, near Bothwell, August 24, 1912, *Fernald, Long & St. John*, no. 7732. Maine: Mt. Katahdin, August 25, 1847, *G. Thurber*, without date, *E. C. Hamlin;* floor of North Basin, Mt. Katahdin, July 13, 1900, *Fernald;* ledges, north face of Boarstone Mt., altitude 610 m. (2000 ft.), August 16, 1895, *Fernald;* tableland above the pond, altitude 915 m. (3000 ft.), Squaw Mt., July 9, 1895, *Fernald*, no. 277; extensively covering the ledges at about 1065 m. (3500 ft.) altitude, Mt. Saddleback, Rangeley, August 17, 1894, *Fernald* (type in Gray Herb.); above timberline, Mt. Saddleback, Rangeley, July 10, 1895, *F. V. Coville*, no. 73 in U. S. Nat. Herb.; Bald Mt., alt. 455–610 m. (1500–2000 ft.), Plantation No. 4, Franklin Co., July 16, 1902, *Knowlton & Chamberlain;* White Cap, Rumford, August 1, 1889, June 9, 1890, *J. C. Parlin;* Speckled Mt., altitude 610 m. (2000 ft.), Franklin, July 29, 1896, *J. A. Allen.* New Hampshire: White Mts., *Oakes;* Mt. Ingalls, Success, June 25, 1908, *A. S. Pease*, no. 11,165; Carter Notch, August 14, 1855, *Wm. Boott;* on a boulder, Carter Notch, altitude 915 m. (3000 ft.), September 6, 1904, *A. S. Pease*, no. 4086; Mt. John Quincy Adams, July 22, 1907, *Pease*, no. 10,876; Mt. Washington carriage-road, August 12, 1910, *Pease*, no. 12,842; ledgy summit of Mt. Crawford, August 18, 1908, *Pease*, no. 11,460; summit of Mt. Webster, August 21, 1908, *Pease*, no. 11,784; near summit of Mt. Kearsarge, *A. Commons* in

[1] For detailed discussion see Simmons, Vasc. Pl. Ellesmereland, 42 (1906).

herb. Phil. Acad.; Moat Mountain, Conway, July 28, 1879, *W. C. Lane;* disintegrated granite, top of Mt. Chocorua, Sept. 7, 1855, *W. Boott*, August 20, 1898, *C. A. Weatherby*, September 10, 1910, *F. T. Lewis*. VERMONT: Mt. Mansfield, June 5, 1877, *C. G. Pringle* in U. S. Nat. Herb. (a possible confusion since the plant seems not to have been collected by others on Mt. Mansfield, where *E. nigrum* occurs, and the label accompanying the specimen is not an original one).— Sterile specimens from Passage Island, Lake Superior (*W. S. Cooper*, no. 107) may belong here.

E. atropurpureum, heretofore taken to be DeCandolle's *E. nigrum*, var. *andinum* of Chili, proves, throughout its known range in northern New England and the islands of the Gulf of St. Lawrence, to be a constant plant with closely trailing white-tomentose branchlets and it cannot, therefore, be longer maintained as identical with *E. nigrum*, var. *andinum*, for that little-known plant, though having red berries, is described by DeCandolle as having "Ramuli et folia glabriuscula." As already pointed out by Knowlton,[1] in Maine *E. nigrum* "grows best in peat-moss, and the prostrate habit is not particularly prominent, as most of the branchlets are suberect"; while the very trailing *E. atropurpureum* "prefers as a soil the gravel formed by the decomposition of coarse granite, usually containing very little vegetable matter." Similarly, on Prince Edward Island and the Magdalen Islands, where *E. nigrum* is chiefly a plant of the bogs and the humus of headlands, *E. atropurpureum* carpets the open sand hills. In Maine and New Hampshire *E. nigrum* is a plant of the bleak eastern coast (from Penobscot Bay eastward) and the highest alpine districts; *E. atropurpureum*, on the contrary, grows chiefly near timber-line or slightly above it or upon the summits and slopes of the lesser mountains.

3. E. **Eamesii**, n. sp., fruticulus ramulis arcte prostratis junioribus albido-tomentosis; foliis coarctatis adscendentibus plus minusve imbricatis deinde paullo patentibus haud reflexis elliptico- vel spathulato-oblongis ad oblongo-linearibus valde coreaceis nitidis apice rotundatis, eis ramulorum vegetorum laminis 2.4–4 mm. longis; baccis 3–5 mm. diametro roseis vel pallide rubris, pelli tenui translucenti, pulpa aquosa propre ecolorata; seminibus 1.2–1.5 mm. longis.

Shrub with closely prostrate branchlets, the young ones white-tomentose: leaves crowded, ascending and more or less overlapping, in age slightly spreading, elliptic- or spatulate-oblong to oblong-linear, very coriaceous and lustrous, round-tipped; the blades of the leading shoots 2.5–4 mm. long: berries 3–5 mm. in diameter, pink or light red, with thin translucent skin and watery nearly colorless pulp: seeds 1.2–

[1] C. H. Knowlton, RHODORA, iv. 196 (1902).

1.5 mm. long.— *E. rubrum* La Pylaie, Voyage à l'isle de Terre-Neuve, 6, 10 (1825); Gray, Mem. Am. Acad., n. s. iii. 8 (1846); Brunet, Notes sur les Plantes recueilles en 1858 par M. l'Abbe Ferland, 7 (186–); Delamare, Renauld & Cardot, Florule de l'île Miquelon, 28 (1888); Waghorne, Summary Acct. of Wild Berries and other Edible Fruits of Nfd. and Lab. 9 (1888); as to the plant of British America, not Vahl. *E. purpureum* Raf. New Fl. pt. iii. 50 (1836), as to plant of Nfd. *E. nigrum*, var. *purpureum* DC. Prodr. xvii, pt. 1, 26 (1869), as to the plant of Nfd.; Simmons, Vasc. Pl. Ellesmereland, 43 (1906), as to the plant of Nfd.; Fernald, Rhodora, xiii. 117, 123 (1911); not D. C. l. c. (1869) in its restricted sense. *E. nigrum*, var. *andinum* Fernald, Rhodora, iv. 150 (1902) as to the plant of Nfd.; Eames, Rhodora, xi. 95 (1909); not DC. l. c. (1869).— Exposed sands or granitic or silicious gravels or ledges, southern Labrador, Newfoundland, St. Pierre et Miquelon, and coast of Saguenay County, Quebec, westward to the Mécatina region. Labrador: sand, l'Anse au Clair, July 7, 1893, *Waghorne* in U. S. Nat. Herb.; abundant on sand and gneissoid rocks, Blanc Sablon, August 4, 1910, *Fernald & Wiegand*, no. 3661 — plant also noted on the Quebec side of Blanc Sablon River. Newfoundland: "les points culminans," *La Pylaie;* St. John's, July 12, 1892, *L. L. Dame;* dry exposed summit of hill south of St. John's, August 12, 1911, *Fernald & Wiegand*, no. 5821; Baccalieu Island, Notre Dame Bay, July, 1902, *J. D. Sornborger;* open granite slopes, altitude 180–350 m., Mt. Steepmore (or Seemore), July 12, 1910, *Fernald & Wiegand*, no. 3659 (type in Gray Herb.); alpine heath and open granite ledges at the summit, altitude 565 m., Mt. Musgrave, July 16, 1910, *Fernald & Wiegand*, no. 3660; dry exposed rocky slopes of Blomidon ("Blow-me-Down") Mts., July 31, 1908, *Eames & Godfrey*, no. 7032; diorite tableland, altitude about 550 m., northern region of Blomidon, August 22, 1910, *Fernald & Wiegand*, no. 3662; Bluff Head, September 7, 1898, *Waghorne;* edge of rock, high upon hill, vicinity of Balena, Hermitage Bay, June 6, 1903, *Wm. Palmer*, no. 1335 (distributed as *Phyllodoce coerulea*); cited by Waghorne and by Eames from numerous other stations on the South Coast. St. Pierre et Miquelon: St. Pierre, *La Pylaie;* August, 1902, *Bro. Louis Arsene.* Quebec: Blanc Sablon (see note above); La Tabatière, 1858, *Abbé Ferland.*

It is a great pleasure to associate with this local and handsome shrub, which has been held to be distinct from *Empetrum nigrum* by most botanists whose field-experience has acquainted them with it, the name of so discriminating a collector as Dr. Edwin H. Eames who, on his herbarium specimens, has written: "seems to be specifically distinct from *E. nigrum.* It's habit, place of growth, small size and color of fruit, leaves, etc., are constantly different"; and who, in discussing the plant in Rhodora (as *E. nigrum*, var *andinum*), presented

a strong case for the specific recognition of the Newfoundland shrub. The impossibility of taking up for *E. Eamesii* the name *E. purpureum* Raf. has been sufficiently discussed. Similarly its distinctness from *E. nigrum*, var. *andinum*, with which it has been confused, is apparent from the quotation above given from DeCandolle's description. La Pylaie, and following him, Asa Gray, identified the shrub without question as *E. rubrum* Vahl, from the Straits of Magellan, the former writing: "Le détroit de Magellan produit, comme nos hautes montagnes, ...l'*Empetrum rubrum*, que y'ai retrouvé sur la crête des monticules de l'île Saint-Pierre. Cette plant est identique avec les échantillons magellaniques conservés dans l'herbier de M. DE JUSSIEU." But all the Magellanic material examined by the writers (several specimens) agrees in being much coarser, with more ascending branches and larger darker-colored opaque berries.

A NEW FORM OF LILIUM PHILADELPHICUM.

E. F. WILLIAMS.

ON July 8, 1913, I was driving through an old road in Warren township, New Hampshire, when my wife called my attention to a yellow flowered *Lilium philadelphicum* growing by the roadside. We left our carriage to secure this unusual form of the species and were delighted to find a good many such plants in a sandy clearing near by and in thin woods surrounding the clearing. Typical red flowered *Lilium philadelphicum* grew abundantly at this station and perhaps twenty per cent of the individuals had petals of about the same shade of yellow as typical *Lilium canadense*. A few plants were of as pale a yellow shade as *Hemerocallis flava* and in one specimen the outer whorl of stamens was petaloid and sterile. This old road crosses the lower slopes of the southern foot hills of Mt. Moosilauke and it connects East Warren, a tiny hamlet, with Warren Summit on the Boston & Maine Railroad. Many years ago there were seven or eight mountain farms on this road but only one remains inhabited. All the others have been abandoned for a long time and the road is now seldom used. The station for the yellow form of *Lilium philadelphicum* is about a mile

from East Warren and is now a wild and solitary spot. I have been unable to find any reference in botanical literature to this remarkable variation from the type and Prof. Fernald of the Gray Herbarium has advised me to put this form on record. Inquiry among the members of the New England Botanical Club and others, has brought forth information about three other stations for this color form. Dr. Dana W. Fellows tells me that he has found it at Cape Elizabeth, near Portland, Maine. Mr. Charles W. Parker writes me that "five or six years ago I found a specimen growing by the roadside in Bath, Maine. I took up the bulb and brought it home to Marblehead Neck, planted it, but never saw it afterwards. Two or three years ago, a gardener for Mr. Hollander, of Marblehead Neck, brought me another specimen (found at Marblehead). I planted that and lost it also." It seems worth while to give a name to this unusual form of this beautiful lily of our native flora and I propose

Lilium philadelphicum L. forma **flaviflorum**, forma nova, formae typicae statura habitu foliis etc. simile differt segmentis perianthii flavis (nec rubris) cum maculis laetius purpureis ornatis.— Perianth-divisions clear yellow splashed with purplish spots, inside, near the base not so deeply colored as in the typical plants. — Type sheet in Gray Herbarium from Warren, N. H. Other stations reported, Bath, Me., Cape Elizabeth, Me., Marblehead, Mass.

Cambridge, Massachusetts.

ELYMUS ARENARIUS AT PROVINCETOWN — NATIVE OR INTRODUCED?

John Murdoch, Jr.

In 1904 the writer collected on the beach at Provincetown, Massachusetts, two specimens of a grass which, at the time of pressing, seemed to him to resemble the descriptions of *Elymus arenarius* L. Being no agrostologist, he laid them aside to wait for a leisure moment and the assistance of an expert. This combination was not secured until last May, when Mr. Fernald at the Gray Herbarium confirmed the tentative identification. He stated that the southernmost station hitherto reported for the species is at Hampton Point, New Hampshire, making this apparently a considerable extension of range.

Further reflection led to the thought that, since a large portion of the town is included in the "Province Lands," on which the Harbor and Land Commission has for many years been endeavoring to fix the moving sand dunes, possibly the *Elymus* might be one of the species thus introduced. A desire for further information on this point, as well as for more duplicates, led the writer to make another visit to the station this summer.

Not much more than a hundred yards south of the present opening of Race Run, and a half mile or so south of Race Point Light, is one large clump of the Wild Wheat. This covers an area of perhaps three hundred square feet, and seems to be spreading, though the earlier notes are not definite enough to make sure. It is located on the low "fore dune," and is surrounded by a vigorous growth of *Ammophila*. For at least a mile along the beach to the south, there is no more *Elymus*. To the best of the writer's recollection, the same is true for the beach to the north and east. Less than a quarter of a mile back from the beach at this point are high dunes on which quantities of *Ammophila* have been planted, but that on the "fore dunes" shows every appearance of being natural. Not a sign of the *Elymus* was seen in this section either.

Since it thus seemed fairly evident that this clump of *Elymus* was not planted in its present position, the next question that arose was whether it might not have escaped from a possible plantation in some other part of the "Province Lands." Accordingly a search was made of the records in the office of the Harbor and Land Commission. Their reports and those of their Superintendent at Provincetown from 1894, when they first took charge of the lands, to 1904, when the *Elymus* was first found, show that the only grass used was *Ammophila*, although many kinds of imported trees and shrubs have been tried. There are references to previous efforts at checking the drift of the sands, made by inhabitants of the town. These seem, however, merely to have consisted, like the present grass work, of transplanting shoots of *Ammophila* from places where it was abundant to the surface of the shifting portions. It seems quite probable, then, that this station really represents an extension of range.

The single duplicate from the collection of 1904 has been placed in the Herbarium of the New England Botanical Club, while duplicates of this summer have been deposited both there and in the Gray Herbarium.

Newtonville, Massachusetts.

Chenopodium carinatum on Cape Cod.— In Rhodora, February, 1911 (Vol. 13, No. 146, p. 22) Mr. Frank S. Collins notes the collection of *Chenopodium carinatum* R. Br. in Eastham and Truro, Cape Cod, which appears to be the first report of this plant in New England. Mr. Collins has given in his article a good description of the plant which need not be repeated here and the object of this note is to put on record some additional information regarding it.

I find in my herbarium specimens collected in Wellfleet, August 2, 1886 and August, 1887 which I took to be immature *Chenopodium Botrys* L. and labeled accordingly, thus showing that the plant has been on Cape Cod for at least twenty-seven years.

The only other report of this species in the United States that I have been able to discover is in Watson's Botany of California in which it is said to have been introduced from Australia. That it should have jumped across the continent from the Pacific coast to the Atlantic is one of the mysteries of plant distribution but being a rather inconspicuous and weedy herb it has been doubtless overlooked in other localities. In its younger stages it closely resembles *Chenopodium Botrys* and as I have passed it by as this species other collectors may have done the same.

In September of the present year I looked up the occurrence of the plant in Truro and found it abundant along a road and spreading down to a saltmarsh beach. It was also very abundant as a weed in an orchard a half-mile away.— W. P. Rich, Boston, Massachusetts.

A second edition of Britton and Brown's Illustrated Flora.— The general plan of Britton and Brown's Illustrated Flora is so familiar that a review of the second edition [1] must of necessity be a comparison with the first. In both editions the greater part of the specific descriptions and the figures are identical. Aside from the introduction of 504 species which were not in the first edition and are now mostly interpolated with only a few words of comparison, the revision has consisted in large part of putting into practice Dr. Britton's recently expressed view in regard to the status of the subspecific categories,— the subspecies, variety and form. As expressed in the preface to the new edition of the Illustrated Flora (p. vii) his view is that

[1] An Illustrated Flora of the northern United States, Canada and the British Possessions... by Nathaniel Lord Britton... and Hon. Addison Brown... The descriptive text chiefly prepared by Professor Britton... Second edition — revised and enlarged. In 3 volumes. New York, Chas. Scribner's Sons...1913.

"many species, perhaps all, are composed of a greater or lesser number of races, differing from each other too little to cause them to be regarded as species, notwithstanding the fact that they may breed true from seed to such slight or trivial differentiations... In the present edition...the view is taken that the races composing many species are often too numerous and too slightly characterized to be described so as to be recognized; many of them have been described as species and many more as varieties, and varieties of different degrees of differentiation have been suggested. We here regard species alone as entitled to distinct botanical appellation..." In accord with this doctrine the names and descriptions of varieties have as a rule been omitted from the second edition.

It is just as true today as it was a generation ago that there is no unfailing or even generally applicable criterion as to what constitutes a species. Asa Gray said that "species...are not facts or things, but judgments, and, of course, fallible judgments; how fallible the working naturalist knows and feels more than any one else" (Letters, vol. ii, p. 657). Darwin said that "few well-marked and well-known varieties can be named which have not been ranked as species by at least some competent judges" (Origin of Species, 6th ed., p. 37). Certainly any author who assumes to write about species only, to the exclusion of varieties, providing, of course, that he does not consider every distinguishable form as a "species," places a higher evaluation on his own judgment than anyone else is likely to do. And when he remands to synonymy species which he arbitrarily decides to consider as varieties (or "races") and almost in the same breath announces that the aim of his work "is to illustrate and describe *every species*... recognized as distinct by *botanists*" (*v.* introduction, p. v; italics the reviewer's) we may well be pardoned some display of astonishment! What will they say who were formerly wont to protest long and vigorously against botanical dictatorship? For now Dr. Britton not only decrees what species are species but even what botanists are botanists!

Dr. Britton's failure to attempt a rational treatment of varieties and critical species unfortunately involves a neglect of the very problems which bring taxonomy most vitally into touch with other kinds of botanical investigation. From many standpoints the forms which are generally treated as critical species and as varieties are of greater interest than the more conspicuous but often not sharply defined groups which by common tradition have long been classed as species. Even if the varieties can not be sharply distinguished from the species, and if the critical species rest upon technical characters, they should by no means be omitted from any descriptive flora which is designed to be of general interest and utility. A few examples will bear out the truth of this. In the new Illustrated Flora *Scirpus georgianus* is placed in the synonymy of *S. atrovirens;* of *Scirpus atrocinctus* we are told little except that it "may be specifically distinct" from *S. cyperinus;* it is said of *Scirpus Longii* that it "appears to be

the same as *S. atrocinctus*"; both *Scirpus Eriophorum* and *S. pedicellatus* are referred without qualification to *S. cyperinus*. Now it must be apparent from considerable recent literature that many discriminating botanists are regularly distinguishing these forms of Scirpus, and they will very justly view as unsatisfactory a treatment of the genus which does not define them in some category,— if not as species at least as varieties. In this connection attention may be called to the fact that in the new edition *Scirpus Fernaldi* and *S. novae-angliae* are retained as species, although it is certainly difficult to understand how they can consistently be retained even as weak varieties in a treatment which denies the distinctness of *Scirpus atrocinctus, S. Eriophorum* and *S. Longii*.

For a further example of Dr. Britton's extremely unsatisfactory treatment of critical species we may turn to the genus Rubus. None of the species which Blanchard has recently proposed is even mentioned in the Illustrated Flora, either in synonymy or elsewhere. Doubtless it was by way of extenuation that this note was introduced under the generic description: "All the British brambles were reduced to a single species, *R. fruticosus* L., by Bentham, but other authors have recognized and described a large number." Even this distinguished precedent gives little justification for ignoring all the recent propositions in Rubus, however, for Bentham's knowledge of the British flora was notoriously superficial. Darwin, in 1858, wrote to Hooker, "I have ordered Bentham, for, as ——— says, it will be very curious to see a Flora written by a man who knows nothing of British plants!!" Today conservative British botanists recognize the distinctness of more species of Rubus than even the most extreme splitters would have admitted to their floras fifty years ago.

Perhaps the recently proposed blackberries are not yet well enough attested so that their omission from a popular work should be criticised. In the case of many other genera, however, it is impossible to overlook the omission or reduction to synonymy of species which are considered distinct by many excellent botanists. It would seem that such species as *Potamogeton bupleuroides, Eleocharis diandra, E. nitida, E. Macounii, Salix coactilis, Populus virginiana, Salicornia rubra, Comandra Richardsiana, Anemone riparia, Amelanchier humilis, Antennaria fallax*, and *A. petaloidea* have stronger claims to recognition than the apocryphal *Ophioglossum arenarium, Eleocharis Smallii, Betula alleghaniensis, Fragaria canadensis, F. americana, Xanthoxalis Bushii, X. rufa, Ilex bronxensis, Acer carolinianum*, etc. which are maintained as species.

Dr. Britton believes in small genera; nevertheless he does not go so far as some of his more radical associates in breaking up the older genera. Thus, he does not maintain in the new edition a number of generic segregates, such as Nemexia, Rubacer and Negundo, which have attained more or less currency since the publication of the former edition. In general, however, he has carried the subdivision

of the families into small genera further than many of us consider necessary or desirable, and in a few cases we are inclined to interpret more literally than was probably intended, and heartily to subscribe to, the author's statement (introduction, p. vii) that " . . . . a number of genera have been separated or distinguished from their congeners." Much of the recent tendency to subdivide genera has no basis whatever in sound scholarship. It is typical of the whole movement that Dr. Britton should accept as one of the key characters for separating Raimannia and Anogra "ovules and seeds in 2 rows" as opposed to "ovules and seeds in 1 row" and yet let his flora pass through two editions with illustrations showing exactly the opposite condition (*v.* figures of *Raimannia laciniata* and *Anogra coronopifolia*). Again, one of the key characters for Galpinsia is "stigma disk-like, entire." Unless our eyes deceive us (for the illustration is somewhat ambiguous) *Galpinsia interior* is figured with a four-lobed stigma. Furthermore, if Kneiffia can be keyed out of Onagra, Oenothera, Anogra, etc., by having the alternate stamens longer, why do the figures show them all alike in length? The reviewer does not care to express any opinion as to the validity of the genera which have been segregated from Oenothera, but points out these inconsistencies merely in order to show that we are not justified in reposing any great confidence in the finality of generic lines in the cases of these minor groups, which by most taxonomists of worldwide outlook are treated merely as subgenera or sections, unless their sponsors can make out for them far stronger claims as genera than is done in the Illustrated Flora.

The figures of the old Illustrated Flora have been retained in the new edition with a few exceptions. The problematic figure of *Alisma tenellum* has happily disappeared and is replaced by an excellent one under the altered name of *Helianthium parvulum*. The figure which passed for *Picea mariana* in the first edition now illustrates *P. rubens* (= *P. rubra*), the old figure of *P. rubra* has dropped out, and there is a new figure for *P. mariana*. The only striking change in the appearance of the new edition is due to the nonconformity of the newly inserted figures. The old ones, although drawn by several artists and of widely varying merit were certainly remarkably uniform. Some of the new illustrations are very much better, some unfortunately not so good; and perhaps, because of their freshness, the new figures stand out conspicuously on the pages. Some of them are truly excellent, notably those of the added species in Paspalum, Panicum and Cenchrus. Some of the less successful are those of the *Juncus tenuis* group and Isoëtes. The newly figured species of Isoëtes are *I. hieroglyphica* and *I. Gravesii*. The spore drawings of the former are exceedingly crude; while the putative spores in the figure of the latter must be seen to be appreciated. The new drawings of several Junci are as unconvincing to a student of the group as those of Isoëtes. The illustrations in the group of *Juncus tenuis* are particularly unsatisfactory, for not only do the new figures mostly fail to show the

diagnostic features of the recent segregates, but even the figure of *J. tenuis*, held over from the former edition, is insufficient for identification. It was satisfactory enough before the components of the aggregate species were recognized, but now might pass almost equally well for any of the segregates as for *J. tenuis*. To make the confusion in the illustration of this group complete, the figures of *J. Vaseyi* and *J. secundus* have become transposed.

Of course the nomenclature of the new Britton and Brown is not in accord with the International Code.

The reviewer cannot refrain from mentioning the subject of common names, although there is really little to say except that the manufacture of "English" names has been continued with unabated zeal. (A distinction is made at New York between "English" and "vernacular" names.) We notice that *Rubus canadensis* (a Linnaean species!) is christened "Millspaugh's Blackberry," because a few years ago Dr. Britton unwittingly added the name *Rubus Millspaughii* to its synonymy. The "English" name is just as superfluous as the Latin synonym. The name *Agrimonia Brittoniana* goes to the synonymy of *A. striata*, but translated as "Britton's Agrimony" it remains to satisfy an imaginary demand for a common name. An indefinite number of Crataegi have been given "English" names, notwithstanding the fact that not more than three or four specialists make any pretense of knowing the species. Incidentally, they are called various kinds of "thorn" although the more frequent "vernacular" name for Crataegus over much of this country is red-haw. The generic name Agalinis has been very recently brought forward for the purple-flowered species of the group which is familiarly known as Gerardia, and without further ado the "English" names change also, and we have Purple Agalinis, etc. We are naïvely informed in the Introduction that many of the "English" names cannot be found in the dictionary! Dr. Britton has used the name Dasystephana for part of the gentians, but he has not changed such pseudonyms as "Elliott's Gentian" to Elliott's Dasystephana. We surmise that the older "English" names here remain as an indication that this is one of the cases where a genus has been separated or distinguished from its congeners!

On the whole it cannot be considered that the new Illustrated Flora shows evidence of a judicial or sympathetic weighing of the results of much of the scholarly activity which has taken place in the study of our flora since the publication of the former edition. Failure to keep fully abreast of the times is further indicated by the retention of the English system of measurements, now practically obsolete in scientific works. In spite of all its shortcomings, however, the Illustrated Flora will doubtless continue to be a very popular work.— H. H. Bartlett, Washington, D. C.

Viola Selkirkii in Connecticut.— Several years ago I collected in the Beaver Dam Swamp in Salisbury, Connecticut, a number of plants of a violet which seemed to me of more delicate growth than the violets to which I was accustomed. These were pressed and forgotten until the past season (spring of 1913) when the finding of the same type of violet in another part of the town brought to mind the earlier collection.

April 27, a party of us walked to the Wolf Den. This is a deep cold gorge, which looks as though water had eaten out the underlying lime stone until the outer shell was so weakened that it caved in from its own weight. Huge blocks of stone are piled in confusion and between them grow trees whose tops fail to tower above the moss hung sides of the gash. In the moss flourish delicate ferns, and flowers which love cool damp places. *Lycopodium lucidulum* grows in great patches; *Polypodium vulgare,* and *Camptosorus rhizophyllus* run riot but I had never known of any plant (except mosses) to grow there which had not been found in many other places. The violets were in full bloom and we gathered a quantity.

On arriving home we found to our delight that we had unknowingly gathered *Viola Selkirkii* Pursh. Not willing to trust our own determination we sent a specimen to Mr. M. L. Fernald who verified it and pronounced the plant the first *V. Selkirkii* Pursh reported from Connecticut. A specimen has been placed in the Gray Herbarium.— Orra Parker Phelps, Canton, New York.

Berberis Thunbergii naturalized in New Hampshire.— On October 4th I found Thunberg's Barberry (*Berberis Thunbergii* DC.) growing in the McCoy pasture on the side of Monadnock Mountain, Jaffrey, New Hampshire, at an elevation of about 1400 feet above sea level. It was about two miles from the summer home of Mr. F. H. Gilson, who was one of our party, and about two miles from the hotel called The Ark, they being the nearest habitations. At neither place did I notice plants of Japanese Barberry. It is likely that seed from this plant was brought from some distance by birds, but it is possible, of course, that someone may have planted the seed in this locality, as it is near a path that is occasionally used. The plant I should say was five or six years old, as it had made a growth of 2–3 feet; and the shrub was only scantily fruiting. It was with Huckleberry and other

low shrubs. It is quite obvious that it will thrive in open fields and pastures, and it certainly would be a good thing for the birds. A specimen has been deposited in the New England Botanical Club Herbarium, as I thought it worth while to draw attention to this adventive.

I think that this Barberry is likely to be introduced in many places in a few years, because I am constantly finding seedlings at some distance from the original plants in private places. I have also found *Rosa setigera* growing vigorously in a field in Hopedale, Massachusetts. The locality has recently been destroyed, however.

Clematis paniculata is another plant that is likely to become introduced into the wild, as I find occasional strays outside of artificial plantations.— WARREN H. MANNING, Boston, Massachusetts.

ERRATA.

Page 37, line 3; for *sylvicola* read *silvicola.*
" 42, " 29; *after* west *insert* to.
" 44, " 1; *for* Fora *read* Flora.
" 48, " 1; *after* 29 cm. omit the comma.
" 68, " 12; for *Wollfia* read *Wolffia.*
" 69, " 34; *for* frustescent *read* frutescent.
" 75, " 33; *after* system *insert* ".
" 76, " 15; for *simile* read *similis.*
" 78, " 10; for *simile* read *similis.*
" 90, " 27; for *parictina* read *parietina.*
" 121, " 9; for *Torreya* read *Torreyana.*
" 121, " 10; for *olia* read *folia.*
" 186, " 22; *for* abu dant *read* abundant.
" 200, " 31; for HETEROCHAETUSS read HETEROCHAETUS.

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